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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/972,180	10/04/2001	David Bruce Isaksen	Wideband 104/Tank-193	3747

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EXAMINER


ZHENG, EVA Y

ART UNIT PAPER NUMBER

2634

DATE MAILED: 03/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/972,180	<b>Applicant(s)</b> ISAKSEN ET AL. 	
	<b>Examiner</b> Eva Yi Zheng	<b>Art Unit</b> 2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 04 October 2001.  
 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 1-16 and 21-32 is/are rejected.  
 7) ☒ Claim(s) 17-20,33 is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.  
 10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:  
         1. ☐ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
     \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/4/01</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a) because they fail to show labels in Fig. 12, 13 and 14 as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "means for

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selecting a passband or a baseband mode” regarding claim 32 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

3. The disclosure is objected to because of the following informalities: on page 5, line 8-11, recitation: “if the QAM constellation includes more than 64 QAM plant points, the passband mode is selected. If, on the other hand, the QAM constellation includes less than 64 QAM plant points, the baseband mode is selected” should be changed to -

- if the QAM constellation includes more than 64 QAM plant points, the baseband mode is selected. If, on the other hand, the QAM constellation includes less than 64 QAM plant points, the passband mode is selected --.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-13 and 21-31 are rejected under 35 U.S.C. 112, second paragraph, as being lack of antecedent basis.

a) Claim 1 recites the limitation "said digital signal" in line 8; "said plurality of digital symbols" in line 10; "said I and Q channels" in line 11; and "said I analog signal" in line 12; "said I channel" in line 13; "said Q analog signal" in line 13; "said Q channel" in line 13. There is insufficient antecedent basis for this limitation in the claim.

b) Claim 8 recites the limitation "said digital signal" in line 9; "said IF carrier signal" in line 10; "said Q output component" in line 13; "said I output component" in line 15; and "said real output RF analog signal" in line 18. There is insufficient antecedent basis for this limitation in the claim.

c) Claim 21 recites the limitation "said digital signal" in line 8; "said plurality of digital symbols" in line 10; and "said I analog signal", "said I channel", "said Q analog signal", "said Q channel" in line 12-13. There is insufficient antecedent basis for this limitation in the claim.

d) Claim 27 recites the limitation "said plurality of symbols" in line 7-8; "said digital signal" in line 9; "said IF carrier signal" in line 10; and "said real output RF analog signal" in line 16. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 14-16 and 32 are rejected under 35 U.S.C. 102(e) as being anticipated by Johnson (US 6,157,679).

a) Regarding claim 14, Johnson discloses a method of baseband/passband digital modulation for data transmission system wherein a plurality of data symbols is transmitted over a transmission channel at a symbol rate; said method comprising the step of:

generating a plurality of I and Q components of symbols (105 and 110 in Fig. 3) by mapping an input bit stream comprising a plurality of digital codewords into a QAM constellation;

selecting a passband or a baseband mode (Col 3, L62-66; and Col 5, L66 - Col 6, L5); and

generating an analog output signal (205 in Fig. 4) in said passband or baseband mode.

b) Regarding claim 15, Johnson discloses the method of claim 14, wherein said step of selecting said passband or said baseband mode further including the step of:

selecting said passband or said baseband mode depending on said QAM constellation (Col 3, L62-66; and Col 5, L66 - Col 6, L5).

c) Regarding claim 16, Johnson discloses the method of claim 15, wherein said step of selecting said passband or said baseband mode further including the step of:

selecting said passband mode if said QAM constellation includes less than 64 QAM plant points, and selecting said baseband mode, if said QAM constellation includes more than 64 QAM plant points (Col 3, L62-66; and Col 5, L66 - Col 6, L5).

d) Regarding claim 32, Johnson discloses an apparatus for baseband/passband digital modulation for data transmission system wherein a plurality of data symbols is transmitted over a transmission channel at a symbol rate; said apparatus comprising the step of:

a means for generating a plurality of I and Q components of symbols (105 and 110 in Fig. 3) by mapping an input bit stream comprising a plurality of digital codewords into a QAM constellation;

a means for selecting a passband or a baseband mode (Col 3, L62-66; and Col 5, L66 - Col 6, L5); and

a means for generating an analog output signal (205 in Fig. 4) in said passband or baseband mode.

***Allowable Subject Matter***

8. Claims 17-20 and 33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eva Yi Zheng whose telephone number is (571) 272-3049. The examiner can normally be reached on 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (571) 272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-879-9306.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to: (703) 872-9314 (for Technology Center 2600 only)**

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

March 3, 2005

Examiner Eva Yi Zheng  
Art Unit 2634



**SHUWANG LIU  
PRIMARY EXAMINER**